

What is claimed is:

1. A rewriting device for rewriting data stored in a memory of a vehicle controller:  
the rewriting device capable of communicating with the vehicle controller and  
5 configured to determine that communication between the rewriting device and the  
vehicle controller is offline when no response is received from the vehicle controller  
within a first determination time;  
wherein, when deleting operation of the data is being performed, the rewriting  
device is configured to prohibit the determination of offline until a second determination  
10 time elapses, the second determination time being greater than the first determination  
time.
2. The rewriting device of claim 1, further configured to determine that the  
communication is offline if no response is received from the vehicle controller within  
15 the second determination time.
3. The rewriting device of claim 1, wherein the second determination time is the  
time necessary to delete the data stored in the memory.
- 20 4. The rewriting device of claim 3, further configured to acquire the deleting time  
from the vehicle controller prior to the deleting operation of the data, and to set the  
acquired deleting time in the second determination time; and  
wherein; when the deleting operation is being performed, the determination of  
offline is prohibited until the second determination time that is set according to the  
25 deleting time elapses.
5. The rewriting device of claim 1, further configured to send no message to the  
vehicle controller until the first determination time elapses from the time at which a  
request for the result of the deleting operation is sent to the vehicle controller.
- 30 6. The rewriting device of claim 3, wherein the deleting time is calculated based on  
the size of the data and the specification of the memory.

7. A rewriting device for rewriting data stored in a memory of a vehicle controller with new data:

the rewriting device capable of communicating with the vehicle controller and  
5 configured to determine that communication between the rewriting device and the vehicle controller is offline when no response is received from the vehicle controller within a first determination time; and

10 wherein, when writing operation of the new data is being performed, the rewriting device is configured to prohibit the determination of offline until a second determination time elapses, the second determination time being greater than the first determination time.

15 8. The rewriting device of claim 7, further configured to determine that the communication is offline if no response is received from the vehicle controller within the second determination time.

9. The rewriting device of claim 7, wherein the second determination time is the time necessary to write the new data into the memory.

20 10. The rewriting device of claim 9, further configured to acquire the writing time from the vehicle controller prior to the writing operation of the new data, and to set the acquired writing time in the second determination time; and

25 wherein, when the writing operation is being performed, the determination of offline is prohibited until the second determination time that is set according to the writing time elapses.

11. The rewriting device of claim 7, further configured to send no message to the vehicle controller until the first determination time elapses from the time at which a request for the result of the writing operation is sent to the vehicle controller.

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12. The rewriting device of claim 9, wherein the writing time is calculated based on the size of the new data and the specification of the memory.

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13. A rewriting system for rewriting data stored in a memory of a vehicle controller with new data, the system comprising:

5 a rewriting device capable of communicating with the vehicle controller, the rewriting device configured to determine that communication between the rewriting device and the vehicle controller is offline if no response is received from the vehicle controller within a first determination time; and

10 wherein, when deleting or writing operation on the memory is being performed, the determination of offline is prohibited until a second determination time elapses, the second determination time being greater than the first determination time.

14. The rewriting system of claim 13, wherein the rewriting device is further configured to determine that the communication is offline if no response is received from the vehicle controller until the second determination time elapses.

15. The rewriting system of claim 13, wherein the second determination time for deleting operation is the time necessary to delete the data stored in the memory and the second determination time for writing operation is the time necessary to write the new data into the memory.

20 16. The rewriting system of claim 15, wherein the vehicle controller is configured to calculate the deleting time necessary to delete the data in the memory; and wherein the deleting time is sent from the vehicle controller to the rewriting device.

25 17. The rewriting system of claim 15, wherein the vehicle controller is configured to calculate the writing time necessary to write the new data into the memory; and wherein the writing time is sent from the vehicle controller to the rewriting device.

30 18. The rewriting system of claim 15, wherein the deleting time and writing time are calculated in accordance with the specification of the memory.

19. The rewriting system of claim 14, wherein the memory includes a non-volatile memory.
- 5    20. A method for rewriting data stored in a memory of a vehicle controller, the method comprising:  
            sending a request asking the vehicle controller to delete the data in the memory;  
            starting operation for deleting the data stored in the memory;  
            determining that communication with the vehicle controller is offline if there is  
10     no response from the vehicle controller within a determination time; and  
            wherein the determination time is greater than a reference time for the  
determination of offline when deleting operation is not being performed in the vehicle  
controller.
- 15    21. The method of claim 20, further comprising:  
            calculating the time necessary to delete the data in the memory; and  
            setting the deleting time in the determination time.
- 20    22. A method for rewriting data stored in a memory of a vehicle controller with new data, the method comprising:  
            sending a request asking the vehicle controller to write the new data into the  
memory;  
            starting operation for writing the new data into the memory;  
            determining that communication with the vehicle controller is offline if there is  
25     no response from the vehicle controller within a determination time; and  
            wherein the determination time is greater than a reference time for the  
determination of offline when writing operation is not being performed in the vehicle  
controller.
- 30    23. The method of claim 22, further comprising:  
            calculating the time necessary to write the new data stored in the memory; and  
            setting the writing time in the determination time.

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